# ATTACHMENT IV-1

# TANK MANAGEMENT PLAN

## 1. SCOPE

The Tank Management Plan describes the processes and process requirements for the Evaporation Tanks, the Decontamination Pad Tank System, and the Mixed Waste Facility Tanks.

a. The Mixed Waste Facility includes the following:

   i. Mixed Waste Treatment Building;

   ii. Mixed Waste Operations Building;

   iii. Mixed Waste Storage Building; and

   iv. Mixed Waste Storage Areas.

b. Attachment II-1-3, *Waste Stabilization Plan;* Attachment II-1-4, *Liquid Waste Management Plan;* Attachment II-1-6, *Leachate, Evaporation, and Decontamination Waste Management Plan*; and Attachment II-1-12, *Thermal Desorption Separation Plan*, provide the process flow for their respective tank systems.

## 2. EVAPORATION AND DECONTAMINATION PAD TANK SYSTEMS:

a. Evaporation and Decontamination Tank Systems and descriptions are provided in Table IV-1 of Module IV, *Storage and Treatment in Tanks*.

b. Requirements for the Evaporation and Decontamination Pad Tank Systems are provided in Attachment II-1-6, *Leachate, Evaporation, and Decontamination Waste Management Plan*.

c. Descriptions of Evaporation Tank Controls - Feed Systems and Safety Cut-Off Systems are outlined in Attachment II-1-6, *Leachate, Evaporation, and Decontamination Waste Management Plan*.

   i. There are no bypass systems for the Evaporation Tanks.

   ii. There are no pressure controls on the Evaporation Tanks.

iii. The tanks are open-topped tanks that shall be subject to atmospheric pressure at all times.

d. Descriptions of Decontamination Pad Tank System Controls - Feed Systems and Safety Cut-Off Systems are outlined in Attachment II-1-6, *Leachate, Evaporation, and Decontamination Waste Management Plan.*

i. There are no bypass systems for the Decontamination Pad Tank System.

ii. There are no pressure controls on the Decontamination Pad Tank System.

iii. The tank system consists of open-topped tanks that are subject to atmospheric pressure at all times.

3. TESTING PLANS AND PROCEDURES

a. New tank systems shall be hydrostatic tested for tightness before they are placed into use. Such tests shall be performed on a day that the area surrounding the tank is otherwise dry.

i. The hydrostatic test shall be performed on each new tank by filling the tanks to fullest capacity with water and letting them sit for a minimum of four hours.

ii. An inspection for evidence of leaks shall be performed while the hydrostatic test is being performed.

b. The water from the hydrostatic test may be used for dust suppression or other on-site purposes after completion.

4. DESCRIPTION OF EVAPORATION TANK SYSTEM SECONDARY CONTAINMENT

a. Secondary containment for the Evaporation Tanks is provided by a concrete vault.

i. The vault systems shall prevent run-on.

ii. The Evaporation Tanks rest above grade on a concrete pad.

iii. The joints on the secondary containment vault and internal tank surface shall be maintained with an appropriate water-and chemical-resistant coating.

b. The secondary containment system shall be sloped toward a sump to allow for recovery of the leaks, spills and precipitation.

c. The largest rectangular tank is a 21,000-gallon tank.

    i. The containment system shall contain at least 21,000-gallons, (100 percent of the volume of the largest tank.)

d. The containment systems for the circular 121,000-gallon tanks shall contain 133,000 gallons.

e. Management of the secondary containment system is outlined in Attachment II-1-6, *Leachate, Evaporation, and Decontamination Waste Management Plan*.

5. DESCRIPTION OF SECONDARY CONTAINMENT FOR THE DECONTAMINATION PAD TANK SYSTEM

a. Secondary containment for the Decontamination Pad Tanks is provided by a concrete vault.

    i. The vault also serves as secondary containment for the Mixed Waste Storage Building.

    ii. The secondary containment system shall be sloped toward a sump to allow for recovery of leaks, spills and precipitation.

    iii. The vault system shall prevent run-on.

    iv. The Decontamination Pad Tanks rest below grade on an above-ground concrete pad.

    v. The joints on the secondary containment vault and internal tank surface shall be maintained with a water-and chemical-resistant epoxy coating.

b. The largest tank inside the concrete vault is a 4,990-gallon tank.

    i. The containment system shall contain at least 4,990 gallons, (100 percent of the volume of the largest tank) and ten percent of any liquid wastes in container storage in the Mixed Waste Storage Building.

c. Management of this secondary containment system is outlined in Attachment II-1-6, *Leachate, Evaporation, and Decontamination Waste Management Plan*.

6. TREATMENT TANK SYSTEMS AND ANCILLARY EQUIPMENT

a. Requirements for the tank systems within the Mixed Waste Treatment Building and Mixed Waste Operations Building are provided in Attachment II-1-3, *Waste Stabilization Plan*; Attachment II-1-4, *Liquid Waste Management Plan*; Attachment II-1-7, *Spray Washing Plan*; and Attachment II-1-12, *Thermal Desorption Separation Plan.*

b. Facility Description

i. The Mixed Waste Treatment Building and Mixed Waste Operations Building provide a level of protection from precipitation, wind and run-on, and prevent run-off.

ii. The Mixed Waste Treatment Building and Mixed Waste Operations Building have several tank systems for the different treatment operations. These tank systems consists of:

A. Waste Receiver Tank;
B. Liquid Waste Storage Tanks (2);
C. Sizing Screen Tank;
D. Primary Shredder Tank;
E. Secondary/Tertiary Shredder Tank;
F. Mixer Tank No. 1; and
G. Small-Scale Mixer Tank (Portable).

iii. The Thermal Desorption system, located in the Mixed Waste Storage Building, contains three identical condensate collection tanks.

iv. The Thermal Desorption condensate collection tanks shall be vented through a drum filled with activated carbon.

c. Secondary Containment.

i. Tanks A- G, listed in 6.b.ii. above are located in the Mixed Waste Treatment Building. With the exception of the Liquid Waste Storage Tanks (double-walled tanks provided with a built-in continuous leak detection system), Tanks A-G include metal containment tanks beneath the treatment operation.

A. The metal tanks include concrete, secondary containment vaults.

B. The tanks are designed so that loaders can remove waste from the tank system.

ii. A system of leak detection is provided by sumps that are built into the concrete vaults so that leaks can be observed by visual inspection.

iii. The Small-Scale Mixer Tank shall be secondarily contained by the floor of the area in which it is operating.

iv. The Thermal Desorption condensate collection tanks shall be secondarily contained by the skid that they are mounted upon; furthermore, they shall be located in the Mixed Waste Storage Building for which the decontamination pad tanks vault provides secondary containment (see 5.a.i. of this Attachment).

d. The Small-Scale Mixer System is a portable 15 cubic foot (112 gallon) mixer with a self-contained 185 gallon containment tank. This mixer may treat waste in either the Mixed Waste Operations Building, the Mixed Waste Treatment Building, or any secondarily contained storage pad. The unit is secondarily contained by the floor in the area in which it is operating.

e. Liquid accumulated within sumps in the Mixed Waste Treatment Building may be pumped into a Liquid Waste Storage Tank.

f. The Mixer Tanks may be filled manually provided that two operators are present to perform the following operations:

i. Pouring from a container;

ii. filling from other tanks or containers using a manually-controlled pump and hoses or pipes; or

iii. similar manual techniques.

g. The feed and safety cutoff systems for the treatment facility tanks are manually controlled.

h. Sumps shall be inspected for the presence of liquid at least once each operating day. If liquid is present, the sump shall be emptied.

i. On-site generated liquid wastes and wastes with liquids from off site shall be managed in tanks in accordance with Attachment II-1-6, *Leachate*,

*Evaporation, and Decontamination Waste Management Plan*; and Attachment II-1-3, *Waste Stabilization Plan*.

j. Treatment Residues shall be managed, stored and disposed in accordance with the applicable provisions of this permit.

7. DUST CONTROL SYSTEMS

a. Dust in the Mixed Waste Treatment Building shall be controlled as follows:

i. First, by dust suppression at each tank system for each waste treatment operation using a system of spraying water which may be mixed with surfactants; and.

ii. Second, using containment and collection at the Waste Receiver Tank that may be enclosed with walls and roll-up doors for waste expected to create dust problems.

END OF ATTACHMENT IV-1